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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/675,386 | 09/29/2000 | Goro Shibamoto | 09792909-0430 | 1405 |

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EXAMINER

RUTHKOSKY, MARK

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 04/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

HG

Office Action Summary

Application No.

09/675,386

Applicant(s)

SHIBAMOTO, GORO

Examiner

Mark Ruthkosky

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including an amendment, was filed in this application on 4/21/2003.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The rejection of claims 1-5 under 35 U.S.C. 103(a) as being unpatentable over Yde-Anderson (WO 97/03475) in view of Kodama et al. (US 6,337,153) has been overcome by the applicant's amendment.
4. The rejection of claims 1-3 and 5 under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. (EP 936,690 A2) in view of Kodama et al. (US 6,337,153) has been overcome by the applicant's amendment.

New Rejections

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yde-Anderson (WO 97/03475) in view of Ibbotson et al. (US 4,287,274.)

The instant claims are to a solid electrolyte cell comprising of a rolled electrolyte body consisting of a positive electrode having a strip electrode collector with both sides coated with a positive active material, and a negative electrode having a strip electrode collector with both sides coated with a negative active material, wherein the electrodes are layered with a solid electrolyte in between. The layers are rolled to form a rolled electrode body. The rolled electrodes have a current collector one-side exposed portion at their one end in the longitudinal direction positioned at the outermost circumference and the current collector one-side exposed portion covers the outer circumference of the rolled electrode body. The rolled electrode body is covered with a multi-layered cell casing.

Yde-Anderson (WO 97/03475) teaches a solid electrolyte electrochemical cell comprising of a rolled electrolyte body consisting of a positive electrode having a strip electrode collector with both sides coated with a positive active material, and a negative electrode having a strip electrode collector with both sides coated with a negative active material, wherein the electrodes are layered with a solid electrolyte in between (see claim 1 and 4). The rolled electrodes have a current collector one-side exposed portion at their one end in the longitudinal direction positioned at the outermost circumference and the current collector one-side exposed portion covers the outer circumference of the rolled electrode body (see claims 2-3.)

With regard to claim 2, the solid electrolyte layer contains a polymer separator imbided with a salt and a swelling solvent. For example, carbonates are used as the swelling solvent in the instant example 1. It is also used as a swelling solvent in the reference (see examples 1-2 and claim 4.) Imbibing the solvent into the polymer inherently forms a gel in both the application and the reference.

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With regard to claims 3-5, the anode and cathodes are shown to have both sides of the collector free of active material at the same ends (see pages 20-21.) Both the interior and exterior circumferences of the wound assembly are covered with the exposed portion of the collector for more than one turn (see page 21, lines 9-23.) The current collector may be coated on only one side (see pg. 7, lines 20-25.) Various numbers of turns with and without active materials are described on page 7, lines 1-25.

Yde-Anderson (WO 97/03475) does not teach a solid electrolyte electrochemical cell comprising a rolled electrode body covered with a multi-layered cell casing. The use of multi-layered cell casings is well described in the art. For example, Ibbotson et al. (US 4,287,274) battery with a zinc can covered with a laminated casing of a including layers of polyethylene terephthalate (see claims 1-10.) It would be obvious to one of ordinary skill in the art at the time the invention was made to use a multi-layered cell casing as described in Ibbotson et al. (US 4,287,274) in the electrochemical cell of Yde-Anderson (WO 97/03475) as the casing will provide a sealed, protective container for housing the cell. Further, one of ordinary skill would recognize from Ibbotson et al. (US 4,287,274) that such a casing would provide a thin, lightweight, flexible casing which provides a protective layer against chemical corrosion (see col. 2, lines 5-20.) These general features would be desirable in a casing for the solid electrolyte electrochemical cell of Yde-Anderson (WO 97/03475).

Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. (EP 936,690 A2) in view of Ibbotson et al. (US 4,287,274.)

Segawa et al. (EP 936,690 A2) teaches a non-aqueous electrolyte battery comprising of a rolled electrolyte body consisting of a positive electrode having a strip electrode collector with

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both sides coated with a positive active material, and a negative electrode having a strip electrode collector with both sides coated with a negative active material, wherein the electrodes are layered with a solid electrolyte in between (see claim 1 and figure 2). The rolled electrodes have a current collector one-side exposed portion at their one end in the longitudinal direction positioned at the outermost circumference and the current collector one-side exposed portion covers the outer circumference of the rolled electrode body (see claims 2-3.)

With regard to claim 2, the solid electrolyte layer contains a polymer separator imbibed with a salt and a swelling solvent. For example, carbonates are used as the swelling solvent in the instant example 1. It is also used as a swelling solvent in the reference (see example 1 and page 4, lines 7-12 and 40-50.) Imbibing the solvent into the polymer inherently forms a gel in both the application and the reference.

With regard to claims 3 and 5, the anode and cathodes are shown to have both sides of the collector free of active material at the same ends (see claim 1 and figures 2-3.) The exterior circumference of the wound assembly is covered with the exposed portion of the collector for more than one turn (see page 4, lines 1-30.) Various numbers of turns with and without active materials are described. Although the reference does not teach a current collector with only one-side exposed, a collector having both sides exposed consists of one side exposed. In addition, the reference does discuss a current collector having an active material where only one side is exposed (see page, 4, lines 20-25.)

Segawa et al. (EP 936,690 A2) does not teach a solid electrolyte electrochemical cell comprising a rolled electrode body covered with a multi-layered cell casing. The use of multi-layered cell casings is well described in the art. For example, Ibbotson et al. (US 4,287,274)

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battery with a zinc can covered with a laminated casing of a including layers of polyethylene terephthalate (see claims 1-10.) It would be obvious to one of ordinary skill in the art at the time the invention was made to use a multi-layered cell casing as described in Ibbotson et al. (US 4,287,274) in the electrochemical cell of Segawa et al. (EP 936,690 A2) as the casing will provide a sealed, protective container for housing the cell. Further, one of ordinary skill would recognize from Ibbotson et al. (US 4,287,274) that such a casing would provide a thin, lightweight, flexible casing which provides a protective layer against chemical corrosion (see col. 2, lines 5-20.) These general features would be desirable in a casing for the solid electrolyte electrochemical cell of Segawa et al. (EP 936,690 A2.)

Response to Arguments

6. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Examiner Correspondence

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 703-305-0587. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:00.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 703-308-2383.

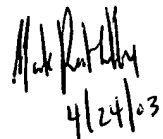
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The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Mark Ruthkosky

Patent Examiner

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4/24/03